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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/002,925	11/02/2001	Andreas Kux	1999P1778	5108

7590 03/02/2004

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EXAMINER

BEREZNY, NEMA O

ART UNIT PAPER NUMBER

2813

DATE MAILED: 03/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/002,925	Applicant(s) KUX ET AL.	
	Examiner Nema O Berezny	Art Unit 2813	<i>AW</i>

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 1-4 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 5-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 November 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☒ Certified copies of the priority documents have been received in Application No. PCT/EP00/03834.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>11-2-01</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

Applicant's election of claims 5-20 in Paper filed 1-15-04 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)). Applicant has also requested a rejoinder under MPEP 821.04.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 5-10 and 13-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Pedersen et al. (5,936,302). Pedersen discloses in combination with a multi-dimensionally constructed chip stack including a plurality of part chips having respective contact areas, the part chips including functional components and being connected to one another at the respective contact areas, a device for securing the multi-dimensionally constructed chip stack, comprising: conductor tracks provided in respective ones of the part chips (col.4 lines 23-32); feed-through contacts provided at the respective contact areas, said feed-through contacts interconnecting said conductor tracks of different ones of the part chips such that a continuous electrical signal path

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extending through the part chips is formed, said continuous electrical signal path having a first end and a second end (col.4 lines 51-61); a transmitting device provided at said first end of said continuous electrical signal path (col.4 line 62 – col.5 line 7); a receiving device provided at said second end of said continuous electrical signal path, said receiving device being configured to receive an electrical signal transmitted via said continuous electrical signal path (col.6 line 62 – col.7 line 10); a continuous electrical reference signal path extending from said transmitting device to said receiving device (col.4 lines 51-61); and a determining device operatively connected to said receiving device, said determining device determining that there is damage to the multi-dimensionally constructed chip stack if the electrical signal cannot be received (col.5 lines 8-18) **[claims 5, 15]**. Pedersen also discloses including a deactivation device operatively connected to at least one of the functional components, said deactivation device deactivating at least one of the functional components if said determining device determines that there is a damage to the multi-dimensionally constructed chip stack (col.5 lines 8-18) **[claims 6, 16]**; wherein said transmitting device and said receiving device are provided in different ones of the part chips (col.4 line 64 – col.5 line 7) **[claims 7, 17]**; including: further transmitting devices and further receiving devices respectively provided in different ones of the part chips; and said transmitting device and said receiving device forming a first pair of devices, said further transmitting devices and said further receiving devices forming further pairs of devices (Fig.1; col.4 line 64 – col.5 line 7) **[claims 8, 18]**; wherein said conductor tracks provided in the part chips are planar conductor tracks (col.4 lines 22-32) **[claims 9, 19]**; including: a metallization

layer formed between respective two of the part chips; and further conductor tracks formed in said metallization layer for connecting the respective two of the part chips (col.4 lines 51-61) [**claims 10, 20**]; wherein said conductor tracks are configured as planar, meandering conductor tracks in at least one of the part chips (Fig.1) [**claim 13**]; and wherein the multi-dimensionally constructed chip stack has end faces and said conductor tracks are planar, meandering conductor tracks provided on the end faces (Fig.1) [**claim 14**].

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pedersen as applied to claims 5-10 above, and further in view of Kumamoto et al. (5,196,920). Pedersen does not disclose a shielding metallization layer. However, Kumamoto discloses including a metallization layer provided on a side of an outer one of the part chips, said metallization layer serving as a shield and having no connecting function (Fig.11; col.3 lines 16-20). Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to use the shielding layer of Kumamoto with the device of Pedersen in order to shield the device from noise (col.3 lines 16-20).

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pedersen as applied to claims 5-10 above, and further in view of Chen et al. (5,106,773). Pedersen does not disclose meandering vertical electrical signal paths. However, Chen discloses wherein said continuous electrical signal path is a meandering path and runs vertically through the part chips (col.4 line 56 – col.5 line 2). Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to use the meandering electrical signal paths of Chen with the device of Pedersen in order to save space on the substrate surface (col.5 lines 2-8).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

5,818,112 Weber et al.

5,701,037 Weber et al.

Both patents are by the same assignee as instant application. Both patents disclose said instant claimed invention, except there are no feed-through contacts to interconnect the conductor tracks of the different part chips. '112 patent performs electrical connectivity between chips by capacitive signal transmission, and '037 patent performs electrical connectivity between chips by inductive signal transmission.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nema O Berezny whose telephone number is (571) 272-1686. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carl Whitehead, Jr. can be reached on (571) 272-1702. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

NB


JACK CHEN
PRIMARY EXAMINER